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AUTHOR Klein, Evelyn R.; Stull, Judith
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ABSTRACT

At the Temple University Center for Research in Human Development and Education, Pennsylvania's largest independent multidisciplinary evaluation program, approximately 300 preschool aged children are evaluated annually to determine developmental performance in the areas of cognition, speech-language, gross and fine motor skills, social-emotional development, and adaptive behavior and to make appropriate followup recommendations. This paper presents data from nearly 1,000 children evaluated from 1995 to 1998. Primary referrals come from parents or guardians, usually concerned about speech/language problems. Physicians provided about 16% of primary referrals. In 57% of the cases, physicians neither encouraged nor discouraged evaluation, but suggested that parents follow their own instincts. Parents were found to be most accurate at suspecting speech/language problems and behavioral delays. Findings indicate that 627 of the 661 children (94.9%) referred for speech/language concerns were actually found to present a significant delay warranting therapeutic intervention. Of 350 complaints concerning behavioral issues, 326 children (93.1%) were found to qualify for services. Parents were less accurate at identifying cognitive problems, and least accurate at identifying developmental delays in the areas of adaptive behavior/self-help skills, fine motor, and gross motor abilities. Trends and implications are discussed. A list of tests most widely used in evaluating these children is attached. (Contains 6 figures and 15 references.) (SLD)

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Efficacy of the Multidisciplinary Evaluation for Preschoolers with Suspected Developmental Delays

Evelyn R. Klein

Judith Stull

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Temple University
Center for Research in Human Development and Education
Philadelphia, PA

Efficacy of the Multidisciplinary Evaluation for Preschoolers with Suspected Developmental Delays

Evelyn Klein, Ph.D., CCC-SLP
Judith Stull, Ph.D.

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April 28, 2000
New Orleans, LA

ABSTRACT

Research in the area of early intervention indicates that about 1.7% of the population of infants and toddlers receive early intervention services in the United States (Bailey, Aytch, Odom, Symons, & Wolery, 1999). The number of preschool age children identified and served has increased dramatically from approximately 261,000 in 1986 to 572,000 in 1998 (DeFosset, 1999). In Pennsylvania, approximately 21,000 children from 3 through 5 years old are served under Part B of IDEA (Individuals with Disabilities Education Act). At Temple University Center for Research in Human Development and Education, the largest independent multidisciplinary evaluation program in Pennsylvania, preschool age children are evaluated annually to determine developmental functioning in the areas of cognition, speech-language, gross and fine motor skills, social-emotional development, and adaptive behavior. This program functions as an 'entitlement' and provides young children with a free, independent, comprehensive, developmental evaluation. In this paper, data are presented from nearly 1,000 children evaluated during the years from 1995 to 1998. Trends and implications are discussed.

PURPOSE

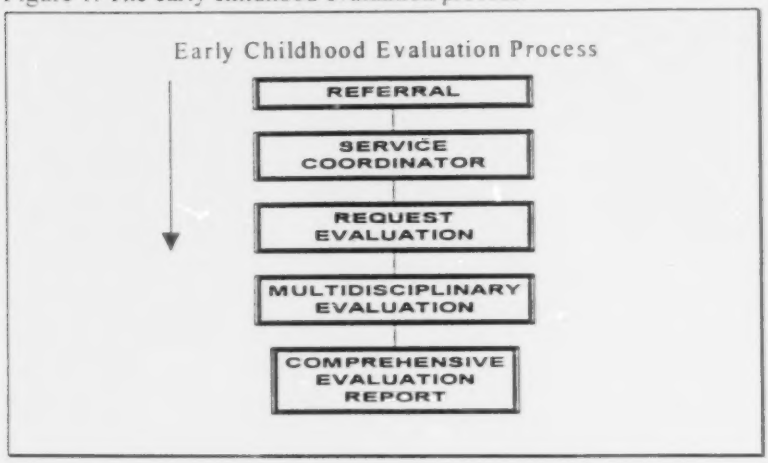
The need to identify and provide early intervention to young children is critical to assisting children and families reach their optimum potential. It is documented that early intervention supports later developmental performance gains (Price, R. Beck, E., & Shaw, S., 1996; Powell, D.R., & Sigel, I., 1991). At Temple University Center for Research in Human Development and Education, data has been collected and analyzed to address the following issues:

- *Trends of Child Referrals*:
  Have differences in reason for initial referral changed over time?
- *Parental Concerns and Findings*:
  How accurate are parents / caregivers in degree of agreement between primary concerns and diagnosed findings?
- *Concomitant Developmental Delays*:
  What areas of developmental functioning are most likely to surface as a cluster?
- *Distribution of Developmental Delays Over Time*:
  Has there been a change in the pattern of diagnosed findings over the past few years?

FRAMEWORK

In Philadelphia, the initial referral to request a developmental evaluation is received via a centralized 800 number where calls are screened and referrals are made through a service coordination process using zip codes. Children who require a developmental evaluation are thereby referred to a multidisciplinary evaluation site (see figure 1). Following the evaluation, a team consisting of professionals and family members determines who is eligible for early intervention services. While the preschool multidisciplinary teams may vary slightly, they generally include a parent, speech/language pathologist, educator, and service coordinator. A physical therapist or occupational therapist is part of the team process when children with motor or sensory concerns are scheduled for evaluations. It is essential that the evaluation process include input from the parent(s) / caregiver(s) to obtain an accurate picture of the child. Parents or caregivers generally stay with their children during the actual evaluation process (Nash, 1990).

Figure 1. The early childhood evaluation process.



To determine if a developmental delay exists in one or more of the primary assessed areas (cognition, speech/language, gross and fine motor, social-emotional, and adaptive behavior), a norm-referenced, standardized battery of tests are required to meet state guidelines. The National Early Childhood Technical Assistance System and Office of Special Education Program of the U.S. Department of Education (1998) has reported state guidelines that define eligibility for early intervention services. In Pennsylvania, a child who is of preschool age (3 to 5 years) and displays at least a 25% delay (based on chronological age) or scores at least 1.5 standard deviations below the mean, in one of the primarily assessed areas, qualifies for early intervention services within that domain of eligibility. The service coordinator follows up with the family regarding the multidisciplinary evaluation team's recommendations.

Over the period of time from 1995 to 1998, the primary referrals came from parents or guardians concerned about speech/language problems. Speech/language problems presented the greatest need for early intervention services. Parental identification of speech/language needs was also the most accurate referral. Accurate identification has implications to later learning. It is essential to track the concerns, referrals, and diagnostic findings with appropriate follow-up services within the early intervention system. Findings indicated that 627 of the 661 children (94.9%) referred for speech/language concerns were actually found to present a significant delay warranting therapeutic intervention. The importance of preschool speech and language acquisition to later academic achievement is well-documented (Kamhi & Catts, 1991; Cohen & Lipsett, 1991; Spreen, Risser, & Edgell, 1995).

EVALUATION INFORMATION

To date, this study includes data over a period of three years (1995-1998) from 977 children living in the metropolitan Philadelphia area: 660 males (67.5%) and 317 females (32.5%) (see figures 2 and 3).

Figure 2. Philadelphia preschool population receiving assessments.

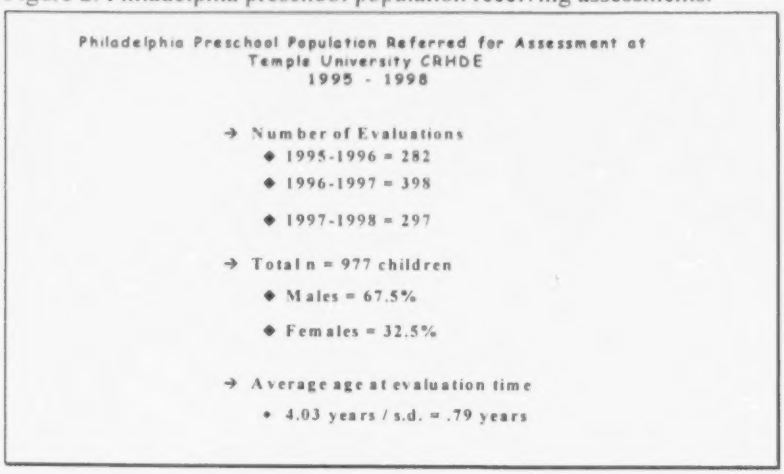
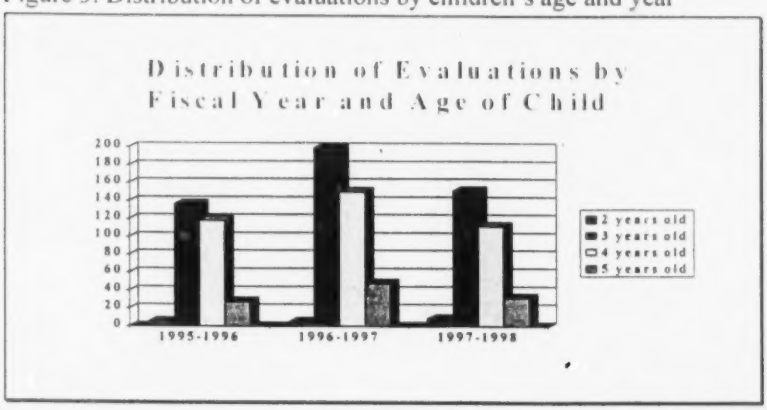

Philadelphia Preschool Population Referred for Assessment at Temple University CRHDE
1995 - 1998
Number of Evaluations
1995-1996 = 282
1996-1997 = 398
1997-1998 = 297
Total n = 977 children
Males = 67.5%
Females = 32.5%
Average age at evaluation time
4.03 years / s.d. = .79 years

Figure 3. Distribution of evaluations by children's age and year



Each child was evaluated using a battery of informal and formal measures to determine if a developmental delay existed in any of the following domains: cognitive, speech/language, gross

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motor, fine motor, social emotional behavior, and adaptive behavior. In general, the formal assessment procedures included research-based evaluation tools to suit the individual needs of the child and his or her presenting concerns. The most frequently used diagnostic battery included a thorough history, team observation, play-based interaction, parental report of the child's behavior at home and in the community, developmental assessments such as the Preschool Language Scale 3 (The Psychological Corporation, 1992), Goldman Fristoe Test of Articulation (Goldman & Fristoe, 1986), and a comprehensive battery such as the Battelle Developmental Inventory (Newborg, Stock, Wneck, et al., 1988) or the Learning Accomplishment Profile (Nehring, Nehring, Bruni,, & Randolph, 1992). Early developmental milestones, information about home life, play behavior, self-help skills, educational, health and family history were also included along with parental reports providing information about the child's favorite activities, situational behavior patterns, and overall ability to accomplish tasks independently. After the evaluation was completed and the assessment measures were scored, the family and multidisciplinary team members reviewed findings and discussed recommendations. The professional team members recorded information in the comprehensive evaluation report (CER) (Spencer & Coye, 1988; Nash, 1990) that was used to develop the individualized educational plan (IEP).

RESULTS

Trends of Child Referrals:

The primary referrals came from parents or guardians, whose primary concerns related to speech/language development. Physicians initiated 16% of the referrals for evaluations. For those parents that questioned their physicians about the necessity of a developmental evaluation for their children (33%), more than half of them (57%) neither advocated nor discouraged the evaluation but suggested that parents follow their instincts. Parents were found to be most accurate at suspecting speech/language problems and behavioral delays. Findings indicated that 95% of the 661 children referred for speech/language concerns were actually found to present a significant delay in this domain. Concerning behavioral issues, of 350 complaints, 93% of the children were found to have a significant delay in this area for their age.

Parental Concerns and Findings:

Parents were less accurate at identifying cognitive problems, adaptive behavior/self-help issues, or fine motor, gross motor concerns. Generally, parents overestimated their children's cognitive proficiency. There were 257 parents who suspected a cognitive delay however, there were 443 children who scored at least 1.5 standard deviations below the mean. In general, parents referred their children for suspected learning (cognitive) problems if their children were not having success with learning the names of colors, shapes, alphabet letters, and/or numbers. Research indicates that those children who at four years old do not like to be read to and who do not follow a story line or have difficulty retrieving words or speaking with adequate sentence constructions are at risk in terms of first grade learning (Gerber, 1993).

Parents were least proficient at detecting delays in the fine motor area, particularly for perceptual-motor integration. Only 25 parents cited this as an area of concern however one-third of the children evaluated were delayed in this area. Parents' limited expectations or a lack of opportunities to observe their children's behaviors with such tasks as writing, stringing beads, coloring, or using utensils may have led to the discrepancy in findings for suspected and identified fine motor skills (see figures 4 and 5).

Figure 4. Referrals based on parental concerns.

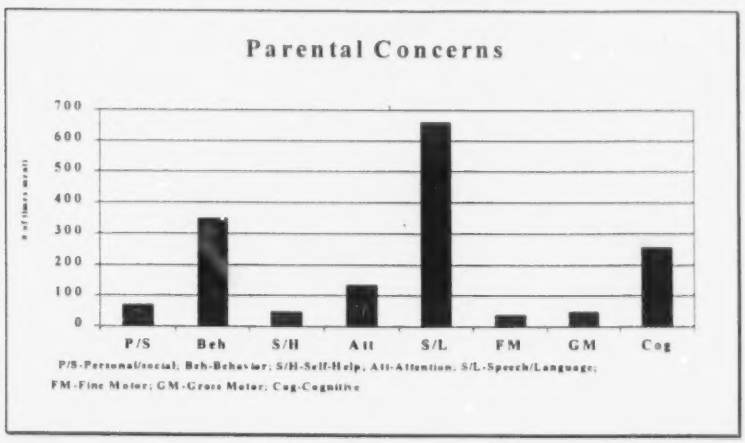

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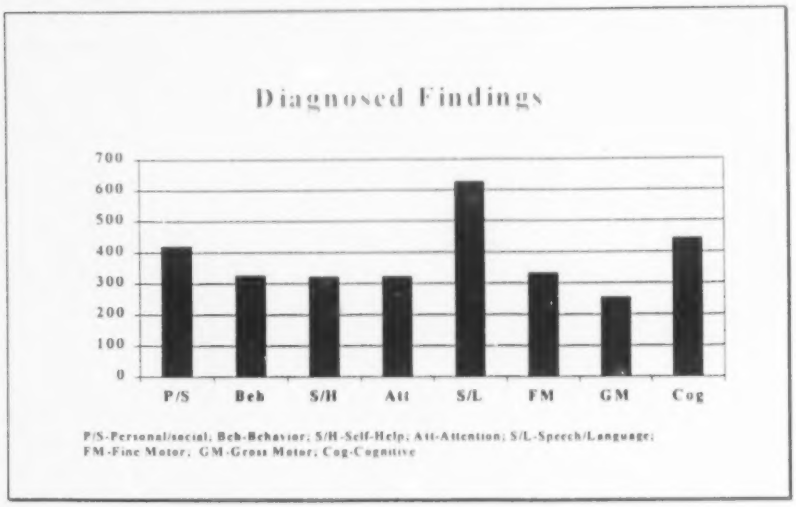
Figure 5. Diagnosed findings of children evaluated.



Concomitant Developmental Delays:

To gain information about concomitant delays of the children, data were analyzed to determine the percentage of children who were: (1) diagnosed with only the one referred developmental delay, (2) diagnosed with at least one other delay, and (3) diagnosed with a 25% developmental delay in all areas assessed (cognitive, speech/language, gross motor, fine motor, behavior-personal/social, and self-help/adaptive behavior).

The findings indicated that children diagnosed with speech/language problems were least likely to have concomitant developmental delays. Speech articulation was most often the single, stand-alone area in need of intervention. However, children diagnosed with a cognitive delay were most often the ones that had at least one other developmental delay, mainly, speech and language. Children diagnosed with gross motor problems were most likely to be developmentally delayed in all areas assessed.

The distribution of diagnosing a single developmental delay indicated that 21% of the children had 'speech/language' as the single diagnostic finding and that 8% of the children evaluated had 'behavioral issues' as a serious concern warranting early intervention (see figure

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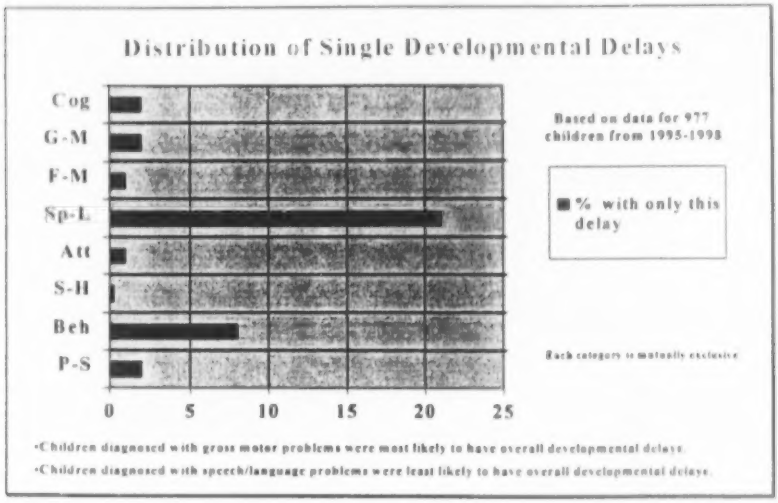
6). Of the total population tested, approximately 17% of the children were delayed in all areas tested. Over the three years of this study, approximately 8 of 10 children referred for a suspected developmental delay were, in fact, found eligible to receive early intervention services.

Figure 6. Distribution of single developmental delays.



Distribution of Developmental Delays Over Time:

During the period of the study, the greatest change in the distribution of developmental delays was found in the percentage of children diagnosed with delays in the adaptive behavior and gross motor skill areas. From 1995 to 1998, there were three categories that indicated a substantial change in diagnosed delays (gross motor skills, adaptive behavior, and social-emotional development). There was a substantial drop in the percentage of children diagnosed with gross motor delays from year one to the following years (1995=60%; 1996=10%; 1997=30%). From 1995 to 1998, there was also a substantial drop in the percentage of children diagnosed with adaptive behavior delays (1995=54%; 1996=20%; 1997=28%) . It is speculated that this decrease in referral concerns was due to the initial start-up of the citywide service coordination system. At that time, 1995, children with the most severe delays were admitted for services for the first time. The influx of more severely delayed children slowed after the initial phase of placement into early intervention. In contrast, the percentage of children diagnosed with social-emotional issues was initially lower and rose 20 percent over the next two years

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(1995=19%; 1998=39%). It is speculated that media coverage about attention deficit hyperactivity disorders may have led to heighten parental awareness and referral rate.

CONCLUSION:

A child's early years are the time when experience, exploration, and development are essential to academic growth and success. The impact of the developmental preschool assessment process in conjunction with parental input cannot be underestimated. From 1995 to 1998, 977 preschool age children received comprehensive developmental evaluations at Temple University Center for Research in Human Development and Education. During those three years, 80% to 85% of those children were diagnosed as eligible to receive early intervention services. It is clear that this process is helpful in identifying children who need specialized services. From our findings it is also clear that parents may benefit from additional information about typical developmental stages as a reference point from which to gauge their child's development to make an appropriate referral for evaluation. According to our findings, there is also a need to encourage more physicians to conduct routine developmental screenings for their young patients so that appropriate recommendations can be made to obtain a comprehensive developmental evaluation.

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